

## 1.A compound of the general formula



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A is an amino acid having at least one functional group in the side chain,

B is a chemical compound covalently bound to at least one functional group of the side chain of A, chosen from the group consisting of:

- (a) oligopeptides having a chain length of up to 20 amino acids, except for homopolymers of glycine consisting of up to 6 glycine monomers, and
- (b) polyethylene glycols having molar masses of up to 20 000 g/mol; andC is a group amide-bonded to A chosen from the group consisting of thiazolidine, pyrrolidine,cyanopyrrolidine, hydroxyproline, dehydroproline and piperidine.
- 2. The compound according to claim 1, wherein A is an  $\alpha$  -amino acid.
- 3. The compound according to claim 2, wherein A is a natural  $\alpha$  -amino acid.
- 4. The compound according to claim 1, wherein the amino acid is chosen from the group consisting of threonine, tyrosine, serine, arginine, lysine, aspartic acid, glutamic acid and cysteine.
- 5. The compound according to claim 1, wherein the oligopeptides have chain lengths of from 3 to 15 amino acids.
- 6. The compound according to claim 1, wherein the oligopeptides are chosen from the group consisting of homopolymers, copolymers or block copolymers.
- 7. The compound according to claim 1, wherein the polyethylene glycols have molar masses of at least 250 g/mol.
- 8. The compound according to claim 1, wherein C is a group chosen from the group consisting of thiazolidine, pyrrolidine and cyanopyrrolidine.
- 9.A pharmaceutical composition comprising the compound according to claim 1, optionally in

combination with pharmaceutically acceptable carriers or adjuvants.

- 10.A cosmetic composition comprising the compound according to claim 1, optionally in combination with cosmetically acceptable carriers or adjuvants.
- 11.A method for topically influencing the activity of dipeptidyl peptidase IV or of analogous enzymes in a subject, comprising administering a therapeutically effective amount of at least one compound or pharmaceutical or cosmetic composition according to claim 1 to said subject.
- 12.A method for prophylaxis or therapy of diseases of the skin or mucosa, autoimmune diseases and inflammation in a subject, comprising administering a therapeutically effective amount of at least one compound or pharmaceutical or cosmetic composition according to claim 1 to said subject.
- 13.A method for prophylaxis or therapy of inflammation, psoriasis, allergies, arthritis, tumors or autoimmune diseases in a subject comprising the administration of a therapeutically effective amount of at least one compound or pharmaceutical or cosmetic composition according to claim 1 to said subject.
- 14.A pharmaceutical composition comprising at least one compound of the general formula

A is an amino acid having at least one functional group in the side chain,

B is a chemical compound covalently bound to at least one functional group in the side chain of A, chosen from the group consisting of:

- (a) oligopeptides having a chain length of up to 20 amino acids,
- (b) polyethylene glycols having molar masses of up to 20,000 g/mol, and
- (c) optionally substituted organic amines, amides, alcohols, acids or aromatic compounds having from 8 to 50 carbon atoms;

C is a group, amide-bonded to A, chosen from the group consisting of thiazolidine, pyrrolidine, cyanopyrrolidine, hydroxyproline, dehydroproline and piperidine, provided that C is not H-Glu[NH(CH 2) 7 CONH(CH 2) 3 NHZ] pyrrolidide or H-Lys[CO(CH 2) 3 NHSO 2 Pfp] pyrrolidide, and at least one pharmaceutically acceptable adjuvant appropriate for the site of action.

- 15. The pharmaceutical composition according to claim 14, wherein A is an α-amino acid.
- 16. The pharmaceutical composition according to claim 15, wherein A is a natural  $\alpha$  -amino acid.
- 17. The pharmaceutical composition according to claim 16, wherein the amino acid is chosen from the group consisting of threonine, tyrosine, serine, arginine, lysine, aspartic acid, glutamic acid and cysteine.
- 18. The pharmaceutical composition according to claim 14, wherein the oligopeptides have chain lengths of from 3 to 15 amino acids.
- 19. The pharmaceutical composition according to claim 14, wherein the oligopeptides are chosen from the group consisting of homopolymers, copolymers and block copolymers.
- 20. The pharmaceutical composition according to claim 14, wherein the polyethylene glycols have molar masses of at least 250 g/mol.
- 21. The pharmaceutical composition according to claim 14, wherein C is a group chosen from the group consisting of thiazolidine, pyrrolidine and cyanopyrrolidine.
- 22. The pharmaceutical composition according to claim 14, further comprising pharmaceutically acceptable carriers.
- 23.A method for topically influencing the activity of dipeptidyl peptidase IV or of analogous enzymes in a subject comprising administering to said subject a therapeutically effective amount of a pharmaceutical composition according to claim 14.
- 24.A Method for prophylaxis or therapy of diseases of the skin or mucosa, autoimmune diseases and inflammation in a subject comprising administering to said subject a therapeutically effective amount of a pharmaceutical composition according to claim 14.
- 25.A method for prophylaxis or therapy of inflammation, psoriasis, periodontitis, allergies, arthritis, tumors or autoimmune diseases in a subject comprising administering to said subject a therapeutically effective amount of a pharmaceutical composition according to claim 14.

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